

CLAIM(S):

1. A method of enzymatically degrading a raw vegetable composition for subsequent human consumption, the method comprising:
providing a raw vegetable composition having a moisture content of
5 less than about 30 weight percent;
applying an aqueous enzyme composition comprising water and a
cellulase to the raw vegetable composition under normal
atmospheric pressures for a time that is sufficient to degrade raw
vegetable composition, wherein the aqueous enzyme composition
10 is at a pH of between about 2.0 and 7.0; and
deactivating the first enzyme composition.
2. The method of claim 1 wherein the aqueous enzyme composition is
effective to degrade a first outer layer of the raw vegetable composition.
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3. The method of claim 1 wherein the aqueous enzyme composition is
effective to tenderize the raw vegetable composition.
4. The method of claim 1 wherein the aqueous enzyme composition is
20 effective to hydrate the raw vegetable composition.
5. The method of claim 4 wherein the raw vegetable composition absorbs
more than about 0.003 grams water per minute per gram of the raw vegetable
composition.
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6. The method of claim 1 and further including applying a second
aqueous enzyme composition to the raw vegetable composition, wherein the
second aqueous enzyme composition is selected from the group consisting of

alpha-galactosidase, mannanase, beta-gluconase, beta-gluconase, arabinase, xylanase, beta-galactosidase, invertase, beta-fructofuranosidase, alpha-amylase, beta-amylase, pectinase, pectin depolymerase, pectin methyl esterase, pectin lyase, glucoamylase, oligo-1,6 glucosidase, lactase, beta-*d*-glucosidase, and any
5 combination thereof.

7. A method of enzymatically processing a vegetable composition for subsequent human consumption, the method comprising:
providing a raw vegetable composition having a moisture content of
10 less than about 30 weight percent;
applying a first enzyme composition comprising water and a cellulase to the raw vegetable composition under normal atmospheric pressures for a time that is sufficient to form an enzyme-degraded raw vegetable composition, wherein the first enzyme composition
15 is at a pH of between about 2.0 and 7.0;
applying a second enzyme composition comprising water and a carbohydrase to the enzyme-degraded raw vegetable composition;
and
deactivating the first enzyme composition and the second enzyme
20 composition.

8. The method of claim 7 wherein the second enzyme composition is selected from the group consisting of hemicellulase, alpha-galactosidase, mannanase, beta-gluconase, beta-gluconase, arabinase, xylanase, beta-
25 galactosidase, invertase, beta-fructofuranosidase, alpha-amylase, beta-amylase, pectinase, pectin depolymerase, pectin methyl esterase, pectin lyase, glucoamylase, oligo-1,6 glucosidase, lactase, beta-*d*-glucosidase, and any combination thereof.

9. A method of processing a vegetable composition for subsequent human consumption, the method comprising:
- providing a raw vegetable composition having a moisture content of less than about 40 weight percent;
- 5 applying an enzyme composition having a pH of between about 2.0 and 7.0 to the raw vegetable composition under normal atmospheric pressures for a time that is sufficient to degrade raw vegetable composition, wherein the enzyme composition includes water, a first enzyme component, and a second enzyme
- 10 component, wherein the first enzyme component includes a cellulase that degrades the raw vegetable composition, and wherein the second enzyme component includes a protease that degrades a protein or a peptide; and
- deactivating the enzyme composition.
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10. The method of claim 9 wherein the raw vegetable composition bean is a green or unfermented cocoa bean.
11. The method of claim 9 wherein the protease degrades a hydrophobic amino acid containing protein, a hydrophobic amino acid-containing peptide, or
- 20 any combination of any of these.
12. A method of processing a vegetable composition for subsequent human consumption, the method comprising:
- 25 providing a raw vegetable composition having a moisture content of less than about 30 weight percent;
- applying an enzyme composition having a pH of between about 2.0 and 7.0 to the raw vegetable composition for a time that is

5 sufficient to degrade raw vegetable composition, wherein the enzyme composition includes water, a first enzyme component, and a second enzyme component, wherein the first enzyme component includes a cellulase that is effective to degrade the raw vegetable composition, wherein the second enzyme component is effective to degrade methylxanthine; and deactivating the enzyme composition.

10 13. The method of claim 12 wherein the raw vegetable composition is a green coffee bean, a cacao bean, a guarana, a cola nut, or any combination thereof.

14. A method of processing a vegetable composition for subsequent human consumption, the method comprising:
15 providing a raw bean having a moisture content of less than about 30 weight percent; and
applying an enzyme composition having a pH of between about 2.0 and 7.0 to the raw bean under normal atmospheric pressures for a time that is sufficient to degrade the raw bean, wherein the
20 enzyme composition includes water and a cellulase that is effective to degrade the raw bean.

15. A method of tenderizing a vegetable composition for subsequent human consumption, the method comprising:
25 applying an enzyme composition that includes water and a cellulase to a raw vegetable composition under normal atmospheric pressures, wherein the enzyme composition has a pH of between about 2.0

and 7.0, and wherein the enzyme composition is effective to tenderize the raw vegetable composition; and deactivating the enzyme composition.

- 5 16. The method of claim 15 wherein the enzyme composition comprises:
cellulase in an amount that tenderizes the bean; and
a pH-modifying component that adjusts the pH of the enzyme
composition to a range of between about 2.0 to about 7.0.
- 10 17. The method of claim 16 wherein the bean is not modified by grinding,
pulverizing, grating, or any combination thereof.
18. The method of claim 15 wherein the enzyme composition is effective
to reduce a cook time of the bean.
- 15 19. The method of claim 15 wherein the enzyme composition further
includes hemicellulase, alpha-galactosidase, mannanase, beta-gluconase, beta-
gluconase, arabinase, xylanase, beta-galactosidase, invertase, beta-
fructofuranosidase, alpha-amylase, beta-amylase, pectinase, pectin depolymerase,
20 pectin methyl esterase, pectin lyase, glucoamylase, oligo-1,6 glucosidase, lactase,
beta-*d*-glucosidase, or any combination thereof.
20. The method of claim 15 wherein deactivating the enzyme composition
includes freezing, drying, freeze-drying, canning, frying, hydrating, boiling,
25 extruding, steaming, blanching, blending, cooking, baking, roasting, fermenting,
peeling, pasteurizing, extracting, grilling, milling, puffing, micro-waving,
enzymatic degradation, grinding, grating, pulverizing, or steam-pressure cooking
the bean.